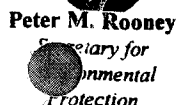


California Regional Water Quality Control Board

Santa Ana Region


Peter M. Rooney
Secretary for
Environmental
Protection

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3737 Main Street, Suite 500, Riverside, California 92501-3339
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Pete Wilson
Governor

December 7, 1998

To: Landfill Owners/Operators in the Santa Ana Region

WASTE DISCHARGE REQUIREMENTS (WDRs) FOR OWNERS/OPERATORS OF MUNICIPAL SOLID WASTE LANDFILLS IN THE SANTA ANA REGION, ORDER NO. 98-99

Enclosed is a copy of Order No. 98-99, WDRs for 25 of the municipal solid waste landfills (MSWLFs) in the Santa Ana Region. This order was adopted by the Board on November 20, 1998. This order combines and replaces Order Nos. 93-57 and 94-17, and amends the existing WDRs for each MSWLF covered under this order. Order No. 98-99 specifies discharge specifications and provisions; it also contains a monitoring and reporting program (M&RP) for each owner/operator of the MSWLF(s). Separate monitoring and reporting programs, as listed below, have been prepared for the following MSWLF owners/operators:

<u>M&RP No.</u>	<u>MSWLF Owners/ Operators</u>
98-99-01	Orange County Integrated Waste Management Department (OCIWMD)
98-99-02	Riverside County Waste Management District (RCWMD)
98-99-03	San Bernardino County Waste System Division (SBCWSD)
98-99-04	City of Redlands
98-99-05	City of Rialto
98-99-06	City of Riverside
98-99-07	City of Upland
98-99-08	Waste Management, Inc.

Individual landfill owners/operators will receive only the monitoring and reporting program(s) prepared for their landfills.

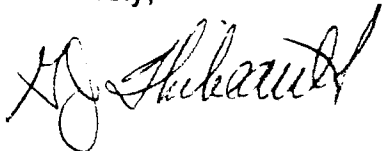
If you have any questions regarding this letter, this order, or the M&RPs, please contact the appropriate Land Disposal Section (LDS) staff as shown below:

California Environmental Protection Agency

December 7, 1998

MSWLFs	LDS staff	Telephone No./ E-mail address
City of Redlands	Keith Person	(909) 782-4997
San Bernardino County		kperson@rb8.swrcb.ca.gov
City of Rialto	Ray Akhtarshad	(909) 320-2024
		rakhtars@rb8.swrcb.ca.gov
City and County of Riverside	Ann Sturdivant	(909) 782-4904
City of Upland		asturdiv@rb8.swrcb.ca.gov
Waste Management, Inc. (El Sobrante Landfill)		
Orange County	Joanne Lee	(909) 782-3291
		jplee@rb8.swrcb.ca.gov

Sincerely,



Gerard J. Thibeault
Executive Officer

Enclosure 1: Waste Discharge Requirements, Order No. 98-99

Enclosure 2: Monitoring & Reporting Program Nos. 98-99-01 through 98-99-08

cc (w/ Enclosures): See attached mailing list

cc (w/ out Enclosures):

California State Integrated Waste Management Board – Dorothy Rice

South Coast Air Quality Management District, Diamond Bar– Alene Tabor

Riverside County Water Conservation and Flood Control District – Mark Wills

San Bernardino County Transportation/Flood Control Department, Water Conservation Division

– Naresh Varma

AES/ landfill/ 98-99let.doc

Mailing List for Enclosures 1 & 2 (Order No. 98-99 and M&RP Nos. 98-99-01 through 98-99-08)

M&RP No. 98-99-01:

Orange County Integrated Waste Management Dept., Director – Vicki Wilson
Orange County Health Care Agency, LEA - Patricia Henshaw

M&RP No. 98-99-02:

Riverside County Waste Management Department, Chief – Robert Nelson
Riverside County Department of Environmental Health, LEA - Steven Moise
State Water Resources Control Board, DCWP - Elizabeth Haven

M&RP No. 98-99-03:

San Bernardino County Waste System Division, Contract Administrator – Gerry
Newcombe
Norcal San Bernardino – Russell Keenan
San Bernardino County Department of Environmental Health Services, LEA –
James Trujillo

M&RP No. 98-99-04:

City of Redlands, Municipal Utilities Director – Gary Phelps
San Bernardino County Department of Environmental Health Services, LEA –
James Trujillo

M&RP No. 98-99-05:

City of Rialto, Maintenance Superintendent – Jack Dooley
San Bernardino County Department of Environmental Health Services, LEA –
James Trujillo

M&RP No. 98-99-06:

City of Riverside, Director of Public Works – Richard McGrath
Riverside County Department of Environmental Health, LEA - Steven Moise

M&RP No. 98-99-07:

City of Upland, Director of Public Works – Rob Turner
San Bernardino County Department of Environmental Health Services, LEA –
James Trujillo

M&RP No. 98-99-08:

Waste Management, Inc. (El Sobrante Landfill) – Ray Grier
Riverside County Waste Management Department, Chief – Robert Nelson
Riverside County Department of Environmental Health, LEA - Steven Moise



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION**

ORDER NO. 98-99

**SUPPLEMENTING EXISTING WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL SOLID WASTE DISPOSAL SITES
IN THE SANTA ANA REGION**

A. FINDINGS

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board) finds that:

1. The Regional Board regulates the discharge of municipal solid wastes to land through the adoption of waste discharge requirements (WDRs) for owners/operators (hereinafter discharger) of municipal solid waste landfills (MSWLFs). These WDRs contain discharge specifications, provisions, and monitoring and reporting requirements which require the discharger to design and operate the MSWLFs in accordance with the new CCR, Title 27.
2. On September 10, 1993, the Regional Board adopted Order No. 93-57, which amended the existing WDRs for most of the MSWLFs within the Santa Ana Region. Order No. 93-57 includes provisions and monitoring and reporting requirements that require the discharger to achieve compliance with Resolution No. 93-62 and the federal MSW regulations.
3. On March 11, 1994, the Regional Board adopted Order No. 94-17, amending Order No. 93-57 and the existing WDRs for the MSWLFs within Santa Ana Region. Order No. 94-17 includes provisions and monitoring and reporting requirements to achieve compliance with Title 27, §20365.
4. The Regional Board is combining WDRs, Order Nos. 93-57 and 94-17 to accommodate the discharger by eliminating overlap between the two, and providing a unified and user-friendly format.
5. Separate Monitoring and Reporting Programs (M&RPs) are issued to each discharger covered by this order.
6. Definitions of terms are contained in Title 27, Subdivision 1, Chapter 2, §20150, §20163, §20164, and §20415.

7. All terms and conditions contained in the existing waste discharge requirements for MSWLFs, which are not amended by this order, shall remain in effect and unchanged. Any new or revised waste discharge requirements contained in this order supersede any conflicting provisions in the existing waste discharge requirements.
8. The Regional Board has notified the discharger and interested agencies of its intent to combine the previously adopted WDRs, Order Nos. 93-57 and 94-17 and has provided all notified parties with an opportunity to submit their written views and recommendations.
9. This order only combines the two existing orders and does not change any of the regulatory requirements contained in them, and as such, is exempt from the California Environmental Quality Act (Public Resources Code, Section 21100 et seq.) in accordance with Section 15301, Chapter 3, Title 14, CCR.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following.

B. DISCHARGE SPECIFICATIONS

1. 100-year floodplain

The discharger owning or operating a MSW landfill that is located within a floodplain created by a 100-year, 24-hour frequency storm shall comply with Title 27, §20260 (c).

2. Precipitation and drainage control

- a. Waste management units shall be designed, constructed, and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, and washout which could occur as a result of precipitation from a 100-year, 24-hour frequency storm.
- b. Units shall be designed and constructed to achieve compliance with Title 27, §20365.
- c. Top deck surfaces shall be constructed to achieve a minimum of one- percent slope and to direct flows to downdrains.

- d. Downdrains and other necessary drainage structures must be constructed for all sideslopes.
- e. All containment structures shall be protected and maintained continuously to prevent commingling of leachate and gas condensate with surface run-on and runoff and to ensure their effectiveness.
- f. All drainage structures shall be protected and maintained continuously to ensure their effectiveness.
- g. The operation of a municipal solid waste landfill facility shall not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to Section 402.

3. **MSW landfills on or adjoining wetlands**

Discharge of municipal solid waste to a wetland, as defined in 40 CFR §232.2 or to any portion thereof is prohibited, unless the Regional Board finds that the discharger has successfully completed all demonstrations required for such discharge under 40 CFR §258.12(a) and this demonstration has been approved by the Executive Officer of the Regional Board.

4. **Liquids acceptance and usage**

- a. The discharge of liquids (groundwater, leachate or landfill gas condensate) or semi-solid wastes (wastes containing less than 50 percent solids, by weight), except as outlined in Title 27 §20220(c), to a MSW landfill or their use for dust control/irrigation at a MSWLF site is prohibited, unless the liquids are returned to or used at the originating MSWLF, equipped with a liner system and a functioning leachate collection and recovery system, in accordance with Title 27, §20200(d) and 40CFR §258.28.
- b. This section shall not apply to groundwater, leachate or landfill gas condensate that is treated in accordance with a plan approved by the Executive Officer of the Regional Board prior to being used for dust control/irrigation.

C. PROVISIONS

1. Dischargers listed in Attachment 1 of the monitoring and reporting program shall comply with the applicable provisions and monitoring requirements contained in this order in addition to provisions of their existing waste discharge requirements (WDRs). Provisions of this order supersede any conflicting provision in the existing WDRs.
2. **Containment systems installed beyond the existing footprint -** Discharge of waste to MSW landfills that have not received waste as of October 9, 1993 or to any area beyond the Existing Footprint of the unit is prohibited unless such discharge is to an area equipped with a containment system. The containment system shall be constructed in accordance with the industry standards and the additional requirements of Resolution 93-62, Section III and Title 27, §20330 and §20340.
3. The compliance period shall be in accordance with Title 27, §20410. At a minimum, the compliance period is equal to the active life of the landfill plus the closure period.
4. **Concentration limits** - The concentration limit for any given Constituent of Concern (COC) or Monitoring Parameter in a given monitored medium at a MSW landfill shall be in accordance with Title 27, §20400.
5. **Annual drainage control system maintenance** - Annually, by October 1, all drainage control system construction and maintenance activities shall be completed. By December 31 of each year, the discharger shall submit a drainage control system maintenance report to the Executive Officer of the Regional Board.
6. **Construction plans** - At least 30 days prior to the construction of any new elements of the drainage control system, the discharger shall submit all construction details and calculations for approval of the Executive Officer of the Regional Board.
 - a. Within four weeks after completion of construction of any new elements of the drainage control system at the site, the discharger shall submit as-built drawings, calculations used, and a written description of the work performed and whether the work performed is in accordance with the construction quality assurance plan. If no construction quality assurance plan has been developed for the work performed, a reason shall be provided.

- b. All design plans, construction plans, and operation and maintenance plans shall be prepared by or prepared under the direct supervision of a registered civil engineer or a registered geologist.
- 7. **Periodic inspection** - Inspections of the waste management units, the drainage control systems, and the containment structures shall be performed to assess the conditions of these facilities, and to initiate corrective actions necessary to maintain compliance with the requirements of this order.
- 8. **Facility survey** - The facility shall be topographically surveyed by aerial surveillance, or by a registered civil engineer or licensed surveyor in accordance with Attachment 1 and Table A of the M&RP for this order. A map compiled from the survey data that shows landfill elevations, the direction of all site drainage, the drainage control system, and containment structures shall be submitted to the Regional Board. The map and a report shall be submitted according to the schedule in Table A of the M&RP for this Order.
- 9. **Regional Board notification** - The discharger shall notify the Executive Officer of the Regional Board by telephone (909-782-4130) within 24 hours of any failure of systems or facilities necessary to maintain compliance with requirements in this order. Within five days, the notification shall be submitted in writing to the Executive Officer.
- 10. This order rescinds Order Nos. 93-57 and 94-17.

D. CONTINGENCY RESPONSES

- 1. **Leachate seep** - The discharger shall immediately report by telephone the discovery of any seepage from or staining of the site. If feasible, a sample of the leachate shall be collected and analytical data submitted to the Regional Board. A written report shall be filed with the Regional Board within seven days, containing at least the following information:
 - a. Map - A map showing the location(s) of seepage;
 - b. Flow rate - An estimate of the flow rate or volume;
 - c. Description - A description of the nature of the discharge (e.g., all pertinent observations and analyses); and
 - d. Corrective measures approved or proposed for consideration by the Executive Officer of the Regional Board.
- 2. **An initial indication of a release** - Should the initial statistical or non-statistical comparison of the data under Title 27, §20415 for any COC or Monitoring Parameter indicate that a release is tentatively identified, the discharger shall immediately notify their designated Regional Board staff contact verbally. The discharger shall also provide written notification by

certified mail within seven days of such determination [Title 27, §20420(j)(1)], and shall carry out a discrete retest in accordance with Title 27, §20415(e)(8)(E). The discharger shall inform the Regional Board of the outcome of the retest as soon as the results are available, following up with written results submitted by certified mail within seven days of completing the retest.

3. **Retest** - If the retest confirms the existence of a release, the discharger shall carry out the requirements of Title 27, §20420(k) and §20425.
4. **Physical evidence of a release** - If either the discharger or the Regional Board determines that there is significant physical evidence of a release [Title 27, §20385(3)], the discharger shall conclude that a release has been discovered and shall:
 - a. Immediately notify the Regional Board of this fact by certified mail (or acknowledge the Regional Board's determination);
 - b. Carry out the requirements of Title 27, §20420(k) and §20425 for all potentially affected monitored media; and
 - c. Carry out any additional investigations stipulated in writing by the Executive Officer of the Regional Board for the purpose of identifying the cause of the indication.
5. **Release beyond facility boundary** - Any time the discharger concludes (or the Executive Officer of the Regional Board directs the discharger to conclude) that a release from the Unit has proceeded beyond the facility boundary, the discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).
 - a. **Initial notice** - Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the discharger's current knowledge of the nature and extent of the release.
 - b. **Updated notice** - Subsequent to initial notification, the discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.
 - c. **Submittal** - Each time the discharger sends a notification to Affected Persons, the discharger shall provide the Regional Board, within seven days of sending such notification, with both a copy of the notification and a current mailing list of Affected Persons.

6. Response to VOC detection in background

- a. **Detection and verification** - Except for VOCs validated as not having come from the landfill, any time the laboratory analysis of a sample from a background monitoring point, sampled for VOCs, shows either two or more VOCs at or above their respective MDL, or one VOC at or above its respective PQL, then the discharger shall immediately notify the Regional Board by phone that possible background contamination has occurred, shall follow up with written notification by certified mail within seven days, and shall obtain two new independent VOC samples from that background monitoring point and send them for laboratory analysis of all detectable VOCs within thirty days. If either or both of these retest samples validate the presence of VOC(s) at that background monitoring point, using the above procedure, the discharger shall:
 - i. **Notification** - Immediately notify the Regional Board about the VOC(s) verified to be present at that background monitoring point, and follow up with written notification submitted by certified mail within seven days of validation; and
 - ii. **Report** - Within 180 days of validation, submit a report, acceptable to the Executive Officer of the Regional Board, which examines the possibility that the detected VOC(s) originated from the Unit (e.g., using concentration gradient analyses) and proposes appropriate changes to the monitoring program.
- b. **VOCs not from landfill** - If, after reviewing the report, the Executive Officer determines that the VOC(s) detected originated from a source other than the Unit, the Regional Board will make appropriate changes to the monitoring program.
- c. **VOCs likely from landfill** - If, after reviewing the report, the Executive Officer of the Regional Board determines that the detected VOC(s) most likely originated from the Unit, the discharger shall conclude that a release has been detected and shall immediately begin carrying out the requirements of Title 27, §20420(k) and §20425.

E. WATER SAMPLING AND ANALYSIS

All water quality monitoring and sampling analysis for the monitored media, and the monitoring points and background monitoring points for each such medium, shall be in accordance with Title 27, §20415.

1. Monitoring parameters for the required monitoring program(s) at each landfill shall be approved by the Executive Officer of the Regional Board. The Executive Officer may approve alternative monitoring parameters that meet the requirements of both Title 27, §§20380 et seq. and 40 CFR §258.54. The Executive Officer may also approve alternative statistical methods that meet the requirements of Title 27, §20415(e) and 40 CFR §258.53.
2. **Latter third / thirty days** - For any given monitored medium, samples shall be taken from all monitoring points and background monitoring points to satisfy the data analysis requirements. All samples shall be taken during the latter third of the Reporting Period within a span not exceeding 30 days, and shall be taken in a manner that insures sample independence to the greatest extent feasible in accordance with Title 27, §20415 (e)(12)(B).
3. **Elevation / field parameters** - Shall be in accordance with Title 27, §20415(e)(13). Ground water elevations taken prior to purging the well and sampling for monitoring parameters shall be used to fulfill the Spring and Fall ground water flow rate/direction analyses required under §4, below.
4. **Data analysis** - Data analysis shall be carried out as soon as the monitoring data are available, in accordance with Title 27, §20415(e).
5. **Ground water flow rate/direction** - Shall be in accordance with Title 27, § 20415 (e)(15). This information shall be included in the monitoring reports for each site as specified in Table A of the M&RP for this Order.

F. CLOSURE/POST-CLOSURE PLAN

1. All closure/post-closure activities shall be in accordance with Title 27, §20950 and §21090.
2. The discharger shall provide proof to the Regional Board that the deed to the landfill facility property, or some other instrument that is normally examined during title search, has been modified to include, in perpetuity, a notation to any potential purchaser of the property stating that:
 - a. **Parcel history** - The parcel has been used as an MSW landfill;
 - b. **Parcel use limitations** - Land use options for the parcel are restricted in accordance with the post-closure land uses set forth in the post-closure plan and in WDRs for the landfill; and

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION**

**MONITORING AND REPORTING PROGRAM (M&RP) NO. 98-99-02
FOR
MUNICIPAL SOLID WASTE DISPOSAL SITES
OPERATED BY THE
RIVERSIDE COUNTY WASTE MANAGEMENT DEPARTMENT (RCWMD)**

A. GENERAL

1. The discharger shall perform the monitoring activities in compliance with the water quality protection standards, and requirements of both Title 27, §20390 and 40 CFR §§258.50 et seq.
2. The concentration limit for any given Constituent of Concern (COC) or Monitoring Parameter in a given monitored medium (e.g., the uppermost aquifer) at a MSW landfill shall be in accordance with Title 27, §20400 and §20415(e)(6,7, and 10), and shall be used as the basis of comparison with data from the monitoring points in that monitored medium.

3. Monitoring Points and Background Monitoring Points selection shall be in accordance with Title 27, §20405.

4. MONITORING PARAMETERS

- a. The discharger shall analyze separate water samples from each water-bearing medium for the monitoring parameters approved for each landfill in Attachment 1 of this M&RP, and shall test the resulting data using one of the statistical or non-statistical methods listed in Title 27, §20415(e).

i. Monitoring parameters that use statistical methods:

- (a) **Metals surrogates under 40 CFR §258.54(a)(2)** - pH, total dissolved solids (TDS), chloride, sulfate, and nitrate as nitrogen, or other constituents as approved; and
- (b) **Each VOC in background** - Each VOC that exceeds its respective MDL in at least ten percent of the samples taken from the background monitoring points for a monitored water-bearing medium (i.e., surface water body, aquifer, perched zone, or soil-pore liquid) during a given Reporting Period.

ii. Monitoring parameter that uses non-statistical methods:

- (a) Composite monitoring parameter "VOC_{water}."

- b. Monitoring parameters for the required monitoring program(s) at each landfill shall be approved by the Executive Officer of the Regional Board. The Executive Officer may approve alternative monitoring parameters that meet the requirements of both Title 27, §§20380 et seq. and 40 CFR §258.54. The Executive Officer may also approve alternative statistical or non-statistical methods that meet the requirements of Title 27, §20415(e) and 40 CFR §258.53.
- 5. **COCs for landfills lacking a synthetic liner and a functional LCRS -**
As of October 9, 1994, for any MSW landfill that does not have both a liner and a leachate collection and removal system (LCRS) that produces leachate, the discharger must comply with the following:
 - a. **Known constituents plus Appendix II**
 - i. The "COC list" (list of Constituents of Concern required under Title 27, §20395) includes all constituents listed in Attachment 1 of this M&RP.
 - ii. The discharger shall monitor all COCs every five years, pursuant to Title 27, §20420(g).
 - b. **Background sampling for new constituents -** For each newly detected Appendix II constituent that is added to the existing monitoring parameter list, the discharger shall establish a reference background value by analyzing at least one sample each quarter from each background monitoring point for a period of at least one year. Once this reference set of background data is collected, the discharger shall include it as a separate, identified item in the next monitoring report submittal. Existing background data for the newly identified Appendix II constituents may be substituted for additional background sampling with the approval of the Executive Officer of the Regional Board.
- 6. **COCs for landfills having a synthetic liner and a functioning LCRS -**
As of October 9, 1994, for any MSW landfill equipped both with a liner and with a leachate collection and removal system (LCRS) that produces leachate, the discharger shall develop and maintain the COC list (under Title 27, §20395) as follows:
 - a. **Building and augmenting the COC list -** The COC list includes:
 - i. All waste constituents listed in each facility's waste discharge requirements as of the effective date of this order; and
 - ii. Each constituent listed in Appendix II that is not already a COC for the landfill, and that was both:
 - (a) Detected in the annual October leachate sampling of the landfill's leachate; and

(b) Also detected in the retest of a leachate sample collected the following April.

b. Background sampling for new constituents that are newly added to the MSW landfill's COC list must be performed in accordance with Title 27, §20415(e)(6).

7. **COCs for landfills that have both lined and unlined areas** – For sites with both lined and unlined areas, two separate COC lists must be developed, as described in A.5 and 6 of this M&RP.

B. MONITORING PROGRAM

1. Water Quality Monitoring

- a. Sample collection, storage, and analysis shall be performed according to the most recent version of Standard USEPA Methods (USEPA Publication "SW-846").
- b. The discharger shall comply with the requirements of Title 27, §20415 for any water quality monitoring program developed to satisfy §20420, §20425, or §20430 of Title 27 and the requirements of this order.
 - i. The ground water monitoring shall meet the requirements of Title 27, §20415(b) and 40 CFR §258.51 (a, c, and d).
 - ii. The surface water monitoring shall meet the requirements of Title 27, §20415(c).
 - iii. Unsaturated zone monitoring shall meet the requirements of Title 27, §20415(d).
 - iv. All general monitoring requirements shall be in accordance with Title 27, §20415(e).
 - v. The October leachate sampling shall be carried out in accordance with Title 27, §20395.
- c. **Detection Monitoring Program (DMP)** - The Detection Monitoring Program applies to each MSW landfill listed in Attachment 1 of this M&RP, unless and until the Regional Board revises the waste discharge requirements for the landfill to include an alternative DMP that complies with both the federal MSW regulations and the most recent revisions to Title 27. Dischargers shall implement the requirements of the DMP as outlined under Title 27, §20420.
- d. **Evaluation Monitoring Program (EMP)** - In the event of the discovery of a release from the unit, the discharger shall implement the requirements of Title 27, §20425. The EMP shall be used to assess the nature and extent of a release from the unit and to

design a corrective action program meeting the requirements of Title 27, §20430.

- e. **Corrective Action Program (CAP)** - After the completion of, or concurrent with, the EMP, the discharger shall design and implement a CAP to meet the requirements of Title 27, §20430.
 - f. Monitoring parameters for the required water quality monitoring programs for each landfill are specified in Attachment 1 and Tables B, C, and D of this M&RP. Attachment 1 and Tables A, B, C and D may be revised and approved by the Executive Officer of the Regional Board as necessary to reflect changes in the monitoring parameters for the required water quality programs.
2. **General Site Monitoring** – All deficiencies identified during general site monitoring shall be documented, and the information transmitted via FAX to the Regional Board within 48 hours of occurrence. This same documentation must also be submitted as part of the reports described in item C.4 of this M&RP.
- a. At a minimum, all systems, such as landfill gas condensate and leachate containment structures, and groundwater extraction and treatment systems, shall be inspected and evaluated on a weekly basis (active sites) or monthly basis (inactive/closed sites) for their effectiveness. All deficiencies identified and the dates and types of corrective action taken shall be recorded in a permanent log. All deficiencies shall be photographed for the record. The volume of liquids collected in the containment structures shall be recorded weekly for active sites or monthly for inactive/closed sites. Liquid samples, such as gas condensate and leachate, at each landfill shall be collected in accordance with the monitoring frequency in Attachment 1, and analyzed for constituents specified for each landfill in Tables B, C and D of this M&RP.
 - b. Monthly, the dischargers shall inspect all waste management units and shall evaluate their effectiveness to comply with Discharge Specification B.2 of Order No. 98-99. All areas of slope failure, differential settlement, fissuring, erosion, ponding, leachate staining, and seepage into or from the landfill shall be identified, field-marked, and documented. In the event seepage is discovered, the location of each seep shall be mapped and a mitigation plan submitted for the approval of the Executive Officer of the Regional Board. All findings shall be photographed for the record.
 - c. At a minimum, all run-on and runoff drainage control structures shall be inspected and evaluated quarterly for their effectiveness. During dry weather conditions, the effectiveness of the drainage control system shall be evaluated on the basis of its conformance to the as-built drawings, or revised drawings, for the system. All deficiencies shall be identified, recorded and mitigated.

✓
d.

Annually, by October 15, an aerial or ground survey of the landfill facility shall be performed in accordance with the schedule in Attachment 1 and Table A of this M&RP.

C. REPORTING

1. **Monitoring report contents** - All reports shall be submitted no later than one month following the end of their respective Reporting Period. The reports shall be comprised of at least the following, in addition to the specific contents listed for each respective report:
 - a. **Transmittal letter** - A letter summarizing the essential points in the report. This letter shall include a discussion of any requirement violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations;
 - b. **Compliance evaluation summary** - For groundwater monitoring and COC reports, a compliance evaluation summary shall be included which references the sampling and quality assurance plans. For modifications to sampling activities, the summary shall include a discussion of the actual activities for at least the following:
 - i. **Flow rate/direction** - For each monitored ground water body, a description and graphical presentation (e.g., arrow on a map) of the velocity and direction of ground water flow under/around the Unit, based upon water level elevations taken during the collection of the water quality samples;
 - ii. **Well information** - For each monitoring well addressed by the report, a description of the method and time of water level measurement, and a description of the method of purging used before sampling to remove stagnant water in the well, pursuant to Title 27, §20415(e)(12)(B); and
 - iii. **Sampling Information** - For each monitoring point addressed by the report, a description of the type of pump or other device used and its vertical placement for sampling, and a detailed description of the sampling procedure (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations);
 - c. **Map** - A map (or copy of an aerial photograph) showing the locations of observation stations and monitoring points;
 - d. **Laboratory data** - The laboratory results of all analyses shall be submitted in accordance with section A.4.a of this M&RP;

- ✓ e. **Leachate monitoring and control facilities, and drainage and erosion control system** - A statement as to the condition and performance of any leachate monitoring and control facilities, and the drainage and erosion control systems; and
- ✓ f. **Waste type and placement** - The quantity and types of wastes discharged and the locations in the landfill where waste has been placed since submittal of the last such report.
- 2. **October leachate sampling** - The discharger shall report to the Regional Board, by no later than January 31 of each year, the analytical results of the leachate sample taken the previous October, including an identification of all detected Appendix II constituents that are not on the landfill's Constituent of Concern list (non-COCs);
- 3. **April retest results** - If the annual leachate sample taken in October identifies non-COCs, the discharger shall collect and analyze a retest sample. The retest sample shall be analyzed only for the non-COCs detected in the October sample. During any year in which an April leachate retest is carried out, the discharger shall submit a report to the Regional Board no later than August 1 of that year. This report must identify all constituents that must be added to the landfill's COC list as a result of having been detected in both the previous calendar year's October sample and in the April retest sample. The report shall also include an updated COC list, which includes the Appendix II constituents that are newly detected in both the October and April leachate samples.
- ✓ 4. **Compliance monitoring reports** - Quarterly or semi-annually, the discharger shall submit general site and water quality monitoring and analytical data (pursuant to items B.1, B.2.a, b and C of this M&RP) for the monitoring periods and reporting due dates specified in Table A of this M&RP. The discharger may propose an alternate schedule, and the Executive Officer may approve the proposal or require the discharger to comply under an alternate reporting frequency.
- 5. **Annual summary report** - The discharger shall submit an annual report to the Regional Board covering the previous monitoring year (April 1 of the previous year through March 31 of the following year). The annual summary reports are due on April 30. This report may be combined with the detection monitoring report period ending March 31, and shall meet the following requirements:

 - a. **Graphical Presentation** - Graphing the Analytical Data shall be in accordance with Title 27, §20415(e)(14);
 - b. **Table and diskette(s)** - Data for all monitoring parameters detected during the previous twelve months shall be presented in tabular form as well as on diskettes (either in MS-DOS/ASCII format or in another file format acceptable to the Executive Officer of the Regional Board). Data sets too large to fit on a single


diskette may be submitted on disk in a commonly available compressed format (e.g., WinZip or NORTON BACKUP) acceptable to the Executive Officer of the Regional Board. The Regional Board regards the submittal of data in hard copy and on diskette as the form necessary for statistical analysis [Title 27, §20420(h)]. This format facilitates periodic review by the Regional Board's statistical consultant;

- c. **Compliance record discussion** - A comprehensive discussion of the compliance record, and of any corrective actions taken or planned which may be needed to bring the discharger into full compliance with the landfill's waste discharge requirements;
 - d. **Waste allocation map** - A map showing the area, if any, in which filling has been completed during the previous calendar year;
 - e. **Summary of changes** - A written summary of monitoring results and monitoring and control system(s), indicating any changes made or observed since the previous annual report; and
 - f. **Leachate and gas control** - For units having leachate and gas monitoring/control facilities, an evaluation of their effectiveness, pursuant to Title 27, §20340(b, c, & d).
6. **Annual drainage control and maintenance report** – By October 1 of each year, all drainage and erosion control system construction and maintenance activities shall be completed. In accordance with Provision C.5 of WDR Order No. 98-99, annually, by December 31, a site drainage control and maintenance report containing the following information shall be submitted:
- a. A summary of the containment structure, waste management unit, and drainage control system records for the monitoring period. The summary shall include a list of deficiencies identified and the dates and types of corrective actions taken to achieve compliance with the requirements contained in this order. If corrective actions for identified deficiencies could not be implemented by the end of the monitoring period; the dischargers shall provide the reason(s) for noncompliance and a time schedule for implementing the corrective actions;
 - b. For the previous 12 months, a summary of the adequacy and effectiveness of the drainage control system to collect and divert the calculated volume of precipitation and peak flows resulting from a 100-year, 24-hour storm;
 - c. A tabular summary of the new and existing drainage control structures including the types and completion dates of maintenance activities performed for each of the structures; and
 - d. An 11 X 17 inch (or better scale) facility site map required under

Provision C.8 of WDR Order No. 98-99, indicating the location of the elements listed in Item C.6.c of this M&RP, and the flow direction of site drainage.

7. **COC Report at least every five years** - In the absence of a release being indicated, the discharger shall monitor all constituents of concern (COCs) and submit a report (COC Report).
 - a. **Reporting period for COCs** - The discharger shall sample all approved monitoring points for each monitored medium for all COCs, as specified in Attachment 1 to this M&RP, every fifth year, beginning in Spring of 1996 (the first Reporting Period ends March 31, 1996), with subsequent COC monitoring efforts being carried out every fifth year thereafter, alternately in the Fall (Reporting Period ends September 30) and Spring (Reporting Period ends March 31).
 - b. **COC report** - This report, which is due one month following the Reporting period, may be combined with any monitoring report or annual summary report.
8. **Reporting Schedule** - The discharger shall submit all reports/documents in accordance with the deadlines specified in Table A of this M&RP.
9. **Signature** - All reports shall be signed by a responsible officer or a duly authorized representative of the discharger and shall be submitted under penalty of perjury.
10. **Existing waste discharge requirements** - All terms and conditions contained in the existing waste discharge requirements for MSWLFs that are not amended by this order shall remain in effect and unchanged. All applicable provisions contained in this order supersede any conflicting provisions in the existing waste discharge requirements.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region.


Gerard J. Thibeault
Executive Officer

November 20, 1998

ATTACHMENT 1

RCWMD Landfills

1. San Timoteo Badlands Landfill (active)

Type of Program	Monitoring Parameters	Monitoring Frequency
Detection water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
October leachate monitoring	Non-COC Appendix II ² constituents	Annually
Landfill gas (LFG) condensate monitoring	General minerals ³ and all Appendix II ² constituents, except TCDD and pesticides	Quarterly, for the first 4 quarters of LFG system operation, then annually ✓
COC Analysis	General minerals ³ and the Appendix II ² constituents	Once every five years
Aerial or ground survey	Not applicable	Annually

2. Lamb Canyon Landfill (active)

Type of Program	Monitoring Parameters	Monitoring Frequency
Evaluation water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
COC analysis	General minerals ³ and the Appendix II ² constituents	Once every five years
Aerial or ground survey	Not applicable	Annually

3. West Riverside Landfill (closed)

Type of Program	Monitoring Parameters	Monitoring Frequency
Detection water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
Landfill gas (LFG) condensate monitoring	General minerals ³ and all Appendix II ² constituents, except TCDD and pesticides	Annually ✓
COC analysis	General minerals ³ and the Appendix II ² constituents	Once every five years
Aerial or ground survey	Not applicable	Once every five years

4. Elsinore Landfill (closed)

Type of Program	Monitoring Parameters	Monitoring Frequency
Evaluation water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
Landfill gas (LFG) condensate monitoring	General minerals ³ and all Appendix II ² constituents, except TCDD and pesticides	Annually ✓
COC analysis	General minerals ³ and the Appendix II ² constituents	Once every five years
Aerial or ground survey	Not applicable	Once every five years.

¹ See Table B.

See Table C.

³ See Table D.

ATTACHMENT 1 - CONTINUED

RCWMD Landfills

5. Corona Landfill (closed)

Type of Program	Monitoring Parameters	Monitoring Frequency
Evaluation water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
Landfill gas (LFG) condensate	General minerals ³ and all Appendix II ² constituents, except TCDD and pesticides	Quarterly, for 4 consecutive quarters, then annually ✓
COC analysis	General minerals ³ and the Appendix II ² constituents	Once every five years
Aerial or ground survey	Not applicable	Once every five years

6. Double Butte Landfill (closed)

Type of Program	Monitoring Parameters	Monitoring Frequency
Evaluation water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
Landfill gas (LFG) condensate monitoring	General minerals ³ and all Appendix II ² constituents, except TCDD and pesticides	Annually ✓
COC analysis	General minerals ³ and the Appendix II ² constituents.	Once every five years
Aerial or ground survey	Not applicable	Annually

7. Highgrove Landfill (inactive)

Type of Program	Monitoring Parameters	Monitoring Frequency
Evaluation water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
Landfill gas (LFG) condensate monitoring	General minerals ³ and all Appendix II ² constituents, except TCDD and pesticides	Quarterly, for the first 4 quarters of LFG system operation, then annually ✓
COC analysis	General minerals ³ and the Appendix II ² constituents.	Once every five years
Aerial or ground survey	Not applicable	Annually

8. Mead Valley Landfill (inactive)

Type of Program	Monitoring Parameters	Monitoring Frequency
Evaluation water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
Landfill gas (LFG) condensate monitoring	General minerals ³ and all Appendix II ² constituents, except TCDD and pesticides	Annually ✓
COC analysis	General minerals ³ and the Appendix II ² constituents.	Once every five years
Aerial or ground survey	Not applicable	Annually

1 See Table B.

2 See Table C.

3 See Table D.

ATTACHMENT 1 - CONTINUED

RCWMD Landfills

9. Hemet Landfill (inactive)

Type of Program	Monitoring Parameters	Monitoring Frequency
Evaluation water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
Soil vapor extraction (SVE) system condensate monitoring	General minerals ³ and all Appendix II ² constituents, except TCDD and pesticides	Quarterly, for the first 4 quarters of SVE system operation, then annually
COC analysis	General minerals ³ and the Appendix II ² constituents.	Once every five years
Aerial or ground survey	Not applicable	Once every five years

10. Idyllwild Landfill (inactive)

Type of Program	Monitoring Parameters	Monitoring Frequency
Evaluation water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
Leachate analysis	General minerals ³ and the Appendix II ² constituents.	Annually
COC analysis	General minerals ³ and the Appendix II ² constituents.	Once every five years
Aerial or ground survey	Not applicable	Once every five years

3. Belltown Landfill (inactive)

Type of Program	Monitoring Parameters	Monitoring Frequency
Detection water quality monitoring	pH, total dissolved solids (TDS), nitrate, sulfate, potassium, chloride, and the 47 volatile organic compounds (VOCs) listed in Appendix I ¹ to 40 CFR Part 258	Semi-annually
COC analysis	General minerals ³ and the Appendix II ² constituents	Once every five years
Aerial or ground survey	Not applicable	Once every five years

1 See Table B.

2 See Table C.

3 See Table D.

TABLE A

MONITORING AND REPORTING

Task Description	Monitoring Period	Report Due Date
Quarterly water quality monitoring	October 1 – December 31	January 31 of each year
	January 1 - March 31	April 30 of each year
	April 1 - June 30	July 31 of each year
	July 1 - September 30	October 31 of each year
Quarterly general site monitoring	October 1 – December 31	January 31 of each year
	January 1 - March 31	April 30 of each year
	April 1 - June 30	July 31 of each year
	July 1 - September 30	October 31 of each year
Semi-annual water quality monitoring	October 1 - March 31	April 30 of each year
	April 1 - September 30	October 31 of each year
Semi-annual general site monitoring	October 1 - March 31	April 30 of each year
	April 1 - September 30	October 31 of each year
October leachate analysis	October 1 - October 31	January 31 of the following year
April leachate retesting analysis	April 1 - April 30	August 1 of each year
Annual drainage control and maintenance	By October 1 of each year	December 31 of each year
Aerial or ground survey	By October 15 of each year	December 31 of each year, or December 31, 1999 and every fifth year thereafter (see Attachment 1)
Annual summary	April 1 of previous year - March 31	April 30 of each year
COC analysis	April 1 - September 30, 2001	October 31, 2001
	October 1, 2005 – March 31, 2006	April 30, 2006, and every fifth year thereafter, alternately in the Fall (October 31) and Spring (April 30)

TABLE B
LIST OF APPENDIX I CONSTITUENTS

Inorganic Constituents	Organic Constituents – continued
Antimony	p-Dichlorobenzene; 1,4-Dichlorobenzene
Arsenic	trans-1,4-Dichloro-2-butene
Barium	1,1-Dichloroethane; Ethylidene chloride
Beryllium	1,2-Dichloroethane; Ethylene dichloride
Cadmium	1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride
Chromium	cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene
Cobalt	trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene
Copper	1,2-Dichloropropane; Propylene dichloride
Lead	cis-1,3-Dichloropropene
Nickel	trans-1,3-Dichloropropene
Selenium	Ethylbenzene
Silver	2-Hexanone; Methyl butyl ketone
Thallium	Methyl bromide; Bromomethane
Vanadium	Methyl chloride; Chloromethane
Zinc	Methylene bromide; Dibromomethane
	Methylene chloride; Dichloromethane
Organic Constituents	Methyl ethyl ketone; MEK; 2-Butanone
Acetone	Methyl iodide; Iodomethane
Acrylonitrile	4-Methyl-2-pentanone; Methyl isobutyl ketone
Benzene	Styrene
Bromochloromethane	1,1,1,2-Tetrachloroethane
Bromodichloromethane	1,1,2,2-Tetrachloroethane
Bromoform; Tribromomethane	Tetrachloroethylene; Tetrachloroethene; Perchloroethylene
Carbon disulfide	Toluene
Carbon tetrachloride	1,1,1-Trichloroethane; Methylchloroform
Chlorobenzene	1,1,2-Trichloroethane
Chloroethane; Ethyl chloride	Trichloroethylene; Trichloroethene
Chloroform; Trichloromethane	Trichlorofluoromethane; CFC-11
Dibromochloromethane; Chlorodibromomethane	1,2,3-Trichloropropane
1,2-Dibromo-3-chloropropane; DBCP	Vinyl acetate
1,2-Dibromoethane; Ethylene dibromide; EDB	Vinyl chloride
o-Dichlorobenzene; 1,2-Dichlorobenzene	Xylenes

TABLE C**LIST OF APPENDIX II CONSTITUENTS**

Acenaphthene
 Acetonitrile; Methyl cyanide
 Acetophenone
 2-Acetylaminofluorene; 2-AAF
 Acrolein
 Acrylonitrile
 Aldrin
 Allyl chloride
 4-Aminobiphenyl
 Anthracene
 Antimony (total)
 Arsenic (total)
 Barium (total)
 Benzene
 Benzo[a]anthracene; Benzanthracene
 Benzo[b] fluoranthene
 Benzo[k] fluoranthene
 Benzo[ghi] perylene
 Benzo[a] pyrene
 Benzyl alcohol
 Beryllium (total)
 alpha-BHC
 beta-BHC
 delta-BHC
 gamma-BHC; Lindane
 Bis(2-chloroethoxy) methane
 Bis(2-chloroethyl) ether; Dichloroethyl ether
 Bis(2-chloro-1-methylethyl) ether; 2,2-Dichlorodiisopropyl ether; DCIP
 Bis(2-ethylhexyl) phthalate
 Bromochloromethane; Chlorobromomethane
 Bromodichloromethane; Dibromochloromethane
 Bromoform; Tribromomethane
 4-Bromophenyl phenyl ether
 Butyl benzyl phthalate; Benzyl butyl phthalate
 Cadmium (total)
 Carbon disulfide
 Carbon tetrachloride
 Chlordane
 p-Chloroaniline
 Chlorobenzene
 Chlorobenzilate
 p-Chloro-m-cresol; 4-Chloro-3-methylphenol
 Chloroethane; Ethyl chloride
 Chloroform; Trichloromethane
 2-Chloronaphthalene
 2-Chlorophenol
 4-Chlorophenyl phenyl ether
 Chloroprene
 Chromium (total)
 Chrysene
 Cobalt (total)
 Copper (total)
 m-Cresol; 3-methylphenol
 o-Cresol; 2-methylphenol
 p-Cresol; 4-methylphenol
 Cyanide
 2,4-D; 2,4-Dichlorophenoxyacetic acid
 4,4-DDD
 4,4-DDE
 4,4-DDT
 Diallate
 Dibenz [a,h] anthracene
 Dibenzofuran
 Dibromochloromethane; Chlorodibromomethane
 1,2-Dibromo-3-chloropropane; DBCP
 1,2-Dibromoethane; Ethylene dibromide; EDB
 Di-n-butyl phthalate
 o-Dichlorobenzene; 1,2-Dichlorobenzene
 m-Dichlorobenzene; 1,3-Dichlorobenzene
 p-Dichlorobenzene; 1,4-Dichlorobenzene
 3,3-Dichlorobenzidine
 trans-1,4-Dichloro-2-butene
 Dichlorodifluoromethane; CFC 12
 1,1-Dichloroethane; Ethylidene chloride
 1,2-Dichloroethane; Ethylene dichloride
 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride
 cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene
 trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene
 2,4-Dichlorophenol
 2,6-Dichlorophenol
 1,2-Dichloropropane; Propylene dichloride
 1,3-Dichloropropane; Trimethylene dichloride
 2,2-Dichloropropane; Isopropylidene chloride
 1,1-Dichloropropene
 cis-1,3-Dichloropropene
 trans-1,3-Dichloropropene
 Dieldrin
 Diethyl phthalate
 0,0-Diethyl 0-2-pyrazinyl phosphorothioate; Thionazin Dimethoate
 p-(Dimethylamino)azobenzene
 7,12-Dimethylbenz[a]anthracene
 3,3-Dimethylbenzidine
 2,4-Dimethylphenol; m-Xylenol
 Dimethyl phthalate
 m-Dinitrobenzene
 4,6-Dinitro-o-cresol; 4,6-Dinitro-2-methylphenol
 2,4-Dinitrophenol
 2,4-Dinitrotoluene
 2,6-Dinitrotoluene
 Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol
 Di-n-octyl phthalate
 Diphenylamine
 Disulfoton
 Endosulfan I
 Endosulfan II
 Endosulfan sulfate
 Endrin
 Endrin aldehyde
 Ethylbenzene
 Ethyl methacrylate
 Ethyl methanesulfonate
 Famphur
 Fluoranthene
 Fluorene
 Heptachlor
 Heptachlor epoxide
 Hexachlorobenzene
 Hexachlorobutadiene
 Hexachlorocyclopentadiene
 Hexachloroethane
 Hexachloropropene
 2-Hexanone; Methyl butyl ketone
 Indeno (1,2,3-cd) pyrene
 Isobutyl alcohol
 Isodrin
 Isophorone
 Isosafrole
 Kepone
 Lead (total)

TABLE C (continued)**LIST OF APPENDIX II CONSTITUENTS**

Mercury (total)	Toluene
Methacrylonitrile	o-Toluidine
Methapyrilene	Toxaphene
Methoxychlor	1,2,4-Trichlorobenzene
Methyl bromide; Bromomethane	1,1,1-Trichloroethane; Methylchloroform
Methyl chloride; Chloromethane	1,1,2-Trichloroethane
3-Methylcholanthrene	Trichloroethyene; Trichloroethene
Methyl ethyl ketone; MEK; 2-Butanone	Trichlorofluoromethane; CFC-11
Methyl iodide; Iodomethane	2,4,5-Trichlorophenol
Methyl methacrylate	2,4,6-Trichlorophenol
Methyl methanesulfonate	1,2,3-Trichloropropane
2-Methylnaphthalene	0,0,0-Triethyl phosphorothioate
Methyl parathion; Parathion methyl	sym-Trinitrobenzene
4-Methyl-2-pentanone; Methyl isobutyl ketone	Vanadium (total)
Methylene bromide; Dibromomethane	Vinyl acetate
Methylene chloride; Dichloromethane	Vinyl chloride; Chloroethene
Naphthalene	Xylenes (total)
1,4-Naphthoquinone	Zinc (total)
1-Naphthylamine	
2-Naphthylamine	
Nickel (total)	
o-Nitroaniline; 2-Nitroaniline	
m-Nitroaniline; 3-Nitroaniline	
p-Nitroaniline; 4-Nitroaniline	
Nitrobenzene	
o-Nitrophenol; 2-Nitrophenol	
p-Nitrophenol; 4-Nitrophenol	
N-Nitrosodi-n-butylamine	
N-Nitrosodiethylamine	
N-Nitrosodimethylamine	
N-Nitrosodiphenylamine	
N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine;	
Di-n-propylnitrosamine	
N-Nitrosomethylethylamine	
N-Nitrosopiperidine	
N-Nitrosopyrrolidine	
5-Nitro-o-toluidine	
Parathion	
Pentachlorobenzene	
Pentachloronitrobenzene	
Pentachlorophenol	
Phenacetin	
Phenanthrene	
Phenol	
p-Phenylenediamine	
Phorate	
Polychlorinated biphenyls; PCBS; Aroclors	
Pronamide	
Propionitrile; Ethyl cyanide	
Pyrene	
Safrole	
Selenium (total)	
Silver (total)	
Silvex; 2,4,5-TP	
Styrene	
Sulfide	
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid	
1,2,4,5-Tetrachlorobenzene	
1,1,1,2-Tetrachloroethane	
1,1,2,2-Tetrachloroethane	
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	
2,3,4,6-Tetrachlorophenol	
Thallium (total)	
Tin (total)	

TABLE D**LIST OF GENERAL MINERALS**

Parameter	EPA Method	Parameter	EPA Method
GENERAL		GENERAL - CONT'D	
Total Hardness	130	Total Dissolved Solids	160.1
Bicarbonate (HCO_3)	310.2	Chemical Oxygen Demand	410
Carbonate (CaCO_3)	310.2	Phenols	420.1
Total Alkalinity	310.1	Total Organic Carbon	415
Total Cations	¹	Total Organic Halogens	450.1
Total Anions	¹	Calcium (Ca)	200.7/215
Hydroxide (OH)	²	Magnesium (Mg)	200.7/242.1
Chloride (Cl)	325	Manganese (Mn)	200.7/243.1
Fluoride (F)	340	Potassium (K)	200.7/258.1
Nitrate (NO_3)	353.2	Sodium (Na)	200.7/273.1
Sulfate (SO_4)	375	Iron (Fe)	200.7/236.1
Phosphate (PO_4)	365.2	Zinc (Zn)	200.7/289.1
Total Phosphorus	365.1/365.2		
Boron (B)	212.3/200.7		
Specific Conductance (Electrical Conductivity - EC)	120.1		
pH	150.1		

¹²

Total cations and anions are determined by the summation of all cations and anions, respectively, in the sample analyzed. The standard method, SM 2330B, in the "Standard Methods for the Examination of Water and Wastewater" for hydroxide ion analysis shall be used.